

## CLAIMS

### WHAT IS CLAIMED IS:

*ens. at*

1. A method for the preparation of molecularly uniform hyperpolymeric hemoglobins, comprising performing ultrafiltration on a known solution of hyperpolymeric hemoglobins of different molecular weights at least once, performing fractional precipitation on the known solution at least once, performing chromatography on the known solution at least once, performing partial dissolution on the known solution at least once or a combination of one or more of the above.

2. The method of claim 1, comprising utilizing different filters for ultrafiltration, performing a multiple filtration, altering the pH, performing the ultrafiltration at different concentrations, varying the composition of the solvent, varying the temperature, varying the transmembrane pressure, varying the tangential (over)flow or a combination of one or more of the above on the known solution.

3. The method of claims 1 or 2, comprising utilizing different agents for the fractional precipitation, carrying the precipitation at different temperatures, varying the pH, adding different solvents for precipitating the polymeric hemoglobins, varying the reaction times, adding

differently saturated precipitating agents, or a combination of one or more of the above on the known solution.

4. The method of any of claims 1 or 2, comprising, performing different chromatographic methods, in combination or successively, varying the pH, varying the composition of the solvent, varying the chromatographic conditions of the flow and the load, adding different chromatographic materials or a combination of one or more of the above in the known solution.

5. The method of any of claims 1 or 2, comprising varying the dissolving time for the partial dissolving process, washing the known solution at least once, treating the dissolving polymers with stabilizing agents, varying the dissolving conditions by changing the temperature, the amount of solvent or both, varying the composition of the solvent or a combination of one or more of the above on the known solution.